



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Yoshihiro MAEDA et al.

Serial Number: 09/703,959

Art Group Unit: 1751

Filed: November 1, 2000

Examiner: Brian P. Mruk

For: WATER-SOLUBLE POLYMER AND ITS USE

DECLARATION UNDER 37 CFR §1.132

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

I, Shigeru YAMAGUCHI, a citizen of Japan, hereby declare and state the following:

1. I graduated from the Department of Applied Chemistry, Faculty of Engineering, Osaka City University, Osaka, Japan in March 1981, and also received a Master of Engineering from the Faculty of Engineering, Osaka City University, Osaka, Japan in March 1983.
2. Since April 1983, I have been employed by Nippon Shokubai Co., Ltd. of Osaka, Japan, the assignee of the present application. During my employment there, I have been engaged in research and development of water-soluble polymer at the Polymer Research Laboratory of the company.
3. I am also a co-inventor of the present application.
4. I have read and am familiar with the Office Action dated May 7, 2003, in the above-referenced patent application.
5. I have read and am familiar with the contents of the following patent related document cited in the Office Action dated May 7, 2003: EP 874,008 A2 to Yamaguchi et al, USP 5,549,852 to Bell, and USP 5,733,857 to Yamaguchi et al.

6. Under my supervision and control, the following experiments were conducted.

EXPERIMENTS

(1) Production of Water-Soluble Polymer:

A water-soluble polymer was prepared in the same way as of Examples 1-1 to 1-25 of EP 874,008 A2 and Examples 1 to 4 of USP 5,549,852.

(2) Measurement of Properties of Water-Soluble Polymer:

The weight-average molecular weight, the calcium ion scavengability and the clay dispersibility in high-hardness water of the polymer as obtained above were measured according to the procedure described page 32, line 7 to page 35, line 2 in the present specification. However, As to the polymer as prepared in the same way of Examples of USP 5,549,852, the weigh-average molecular weight was not measured.

The results are shown in Tables 1 and 2 in page 3.

7. Claim 1 of the present invention recites that a calcium ion scavengability is not less than 0.40 and that a clay dispersibility in high-hardness water is not less than 0.50.

As is evident from Table 1, all of the polymers have a clay dispersibility in high-hardness water of less than 0.50, although some polymers have a calcium ion scavengability of not less than 0.40. Thus, a polymer which falls within the range of claim 1 of the present invention is not obtained in the Examples of EP 874008 A2.

As is evident from Table 2, all of the polymers have a calcium ion scavengability of less than 0.40 and a clay dispersibility in high-hardness water of less than 0.50. Thus, a polymer which falls within the range of claim 1 of the present invention is not obtained in the Examples of USP 5549852.

[Table 1]

Example of EP 874,008 A2	Weight-Average Molecular weight	Calcium ion scavengability	Clay dispersibility in high-hardness water
Claim 1 of Present invention		not less than 0.40	not less than 0.50
1-1	3,000	0.37	0.35
1-2	2,800	0.36	0.38
1-3	3,200	0.40	0.38
1-4	2,800	0.39	0.37
1-5	2,500	0.33	0.38
1-6	3,500	0.31	0.36
1-7	3,500	0.33	0.38
1-8	3,200	0.32	0.37
1-9	3,800	0.34	0.36
1-10	4,000	0.35	0.34
1-11	4,500	0.34	0.35
1-12	4,200	0.36	0.34
1-13	4,800	0.37	0.33
1-14	5,800	0.36	0.33
1-15	2,800	0.35	0.35
1-16	3,800	0.36	0.34
1-17	5,000	0.38	0.32
1-18	8,000	0.34	0.31
1-19	12,000	0.34	0.31
1-20	12,000	0.42	0.30
1-21	22,000	0.45	0.30
1-22	8,000	0.43	0.31
1-23	16,000	0.49	0.31
1-24	25,000	0.50	0.30
1-25	12,000	0.46	0.31

[Table 2]

Example of USP 5,549,852	Calcium ion scavengability	Clay dispersibility in high-hardness water
Claim 1 of Present invention	not less than 0.40	not less than 0.50
1	0.31	0.43
2	0.33	0.45
3	0.31	0.47
4	0.32	0.45

I hereby declare that all statements made herein of my own knowledge are true; and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signed this 27th day of August, 2003



Shigeru YAMAGUCHI

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